REMARKS

In accordance with the foregoing, claims 3 and 14 have been amended to clarify the subject matter thereof, and claims 1-26 are pending and under consideration. No new matter is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §101:

Claim 14 is rejected under 35 U.S.C. §101. It is noted that claim 14 has been amended to recite, "A method of forming a pattern on a pattern forming material comprising a thermal sensitive material layer interposed between first and second light-to-heat converting layers, the method comprising: radiating a light onto the first and the second light-to-heat converting layers to generate heat therein that changes a pattern portion of the thermal sensitive material layer." Therefore, claim 14 now positively recites a method operation, and the Applicants respectfully request that the rejection be withdrawn.

REJECTIONS UNDER 35 U.S.C. §112:

Claim 14 is rejected under 35 U.S.C. §112, first paragraph. It is noted that claim 14 has been amended to recite, "A method of forming a pattern on a pattern forming material comprising a thermal sensitive material layer interposed between first and second light-to-heat converting layers, the method comprising: radiating a light onto the first and the second light-to-heat converting layers to generate heat therein that changes a pattern portion of the thermal sensitive material layer." Therefore, claim 14 now positively recites a method operation, and the Applicants respectfully request that the rejection be withdrawn.

REJECTIONS UNDER 35 U.S.C. §103:

Claims 1-3, 9-15, 20-23, and 26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. (U.S. Patent Application Publication No. 2003/0143407), hereinafter "Yamasaki." The Applicants respectfully traverse the rejection and request reconsideration.

Regarding the rejection of independent claim 1, it is noted that claim 1 recites "the

thermal sensitive material layer is interposed between the first and second light-to-heat converting layers." By way of review, Yamasaki discloses a pattern formed on an image forming layer by ink (paragraph [0198]). Specifically, Yamasaki discloses a planographic printing plate precursor that includes an image forming layer (paragraph [0128]) and a light to heat converting substance (paragraph [0185]. Accordingly, when the precursor is treated through laser light, the light to heat converting substance converts the light to heat energy that is applied to the image forming layer (paragraph [0185]). As a result, a heated region of the image forming layer changes from hydrophilic to hydrophobic or from hydrophobic to hydrophilic (paragraph [0194]). Subsequently, when the precursor receives water and ink in a printer, a pattern is formed by the ink in the hydrophobic ink-receiving image area (paragraph [0194]). On page 3 of the Office Action, the Examiner concedes that Yamasaki does not teach light-to-heat converting material above and below a thermal sensitive layer. Rather, the Examiner states that such an arrangement would have been obvious because Yamasaki teaches the light to heat conversion material may be in any position of the thermal-sensitive composition. However, though Yamasaki does suggest a plurality of locations that may include the light to heat conversion material according to various embodiments, Yamasaki **does not teach multiple layers having the light to heat conversion material in a single embodiment**, let alone light to heat conversion layers surrounding the image forming layer.

In fact, such multiple layers would not have been obvious, because including multiple light to heat conversion layers in Yamasaki provides no benefit whatsoever. The light to heat conversion material is not even required in the planographic precursor of Yamasaki, and is disclosed as "desirable" and optional (paragraph [0185]). Moreover, Yamasaki does not relate to creating patterns that require large amounts of heat (for example, to create very fine patterns), and does not include a photoresist or heat sensitive layer that could evaporate or deform by larger amounts of heat that are not efficiently converted and provided. Meanwhile, the present claim recites two light-to-heat converting layers, which enables the activation light to be more efficiently converted into heat even at a low output power. As a result, according to the present claim, it is possible to form patterns finer than a diffraction limit of the activation light with a high aspect ratio without increasing the output power of the activation light. However, there is no conceivable reason to include multiple light to heat conversion layers surrounding the image forming layer in Yamasaki, as Yamasaki does not relate to creating very fine patterns that require large amounts of heat. Therefore, as Yamasaki does not disclose multiple layers having

the light to heat conversion material and there is no benefit or reason to include such multiple layers in the planographic precursor of Yamasaki, the Applicants respectfully submit that Yamasaki fails to disclose, implicitly or explicitly, a thermal sensitive material layer interposed between first and second light-to-heat converting layers, as recited in claim 1.

Regarding the rejection of claims 2-3, it is noted that these claims depend from claim 1 and are, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of claim 9, it is noted that this claim depends from claim 1 and is, therefore, allowable for at least the reasons set forth above. Furthermore, it is noted that claim 9 recites "at least one thermal protective layer between the second light-to-heat converting layer and the target substrate." In contrast, Yamasaki fails to suggest a thermal protective layer distinct from the substrate and between the substrate and a light-to-heat converting layer, and the Examiner does not provide a citation in Yamasaki for such a thermal protective layer. Therefore, the Applicants respectfully request that the rejection be withdrawn.

Regarding the rejection of claims 10-12, it is noted that these claims depend from claim 9 and are, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of claim 13, it is noted that this claim depends from claim 1 and is, therefore, allowable for at least the reasons set forth above. Furthermore, the Examiner does not provide a citation in Yamasaki for a cap layer, as recited in claim 13. Therefore, the Applicants respectfully request that the rejection be withdrawn.

Regarding the rejection of independent claim 14, it is noted that claim 14 is allowable for at least similar reasons to those provided above with reference to claim 1.

Regarding the rejection of independent claim 15, it is noted that claim 15 is allowable for at least similar reasons to those provided above with reference to claim 1. Furthermore, it is noted that claim 15 recites "removing a non-pattern portion of the thermal sensitive material layer." In contrast, Yamasaki discloses a planographic printing plate precursor that includes an image forming layer (paragraph [0128]) and a light to heat converting substance (paragraph [0185]. Accordingly, when the precursor is treated through laser light, the light to heat converting substance converts the light to heat energy that is applied to the image forming layer (paragraph [0185]). As a result, a heated region of the image forming layer changes from hydrophilic to hydrophobic or from hydrophobic to hydrophilic (paragraph [0194]). Subsequently, when the precursor receives water and ink in a printer, a pattern is formed by the ink in the hydrophobic

ink-receiving image area (paragraph [0194]). **However, the non-image area that does not receive ink (i.e., the hydrophilic area) is not removed, and is an integral part of the precursor that is inserted into a printer.** Therefore, the Applicants respectfully submit that Yamasaki fails to disclose, implicitly or explicitly, a removing of a non-pattern portion of a thermal sensitive material layer, as recited in claim 15. Furthermore, the Examiner does not provide a citation in Yamasaki for such a removal, as recited in claim 15, and the Applicants respectfully request that the rejection be withdrawn.

Regarding the rejection of claim 20, it is noted that this claim depends from claim 1 and is, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of claim 21, it is noted that this claim depends from claim 10 and is, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of claims 22-23, it is noted that these claims depend from claim 1 and are, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of independent claim 26, it is noted that claim 26 is allowable for at least similar reasons to those provided above with reference to claim 1.

Claims 1, 4-8, 16, 18-19 and 25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. (U.S. Patent Application Publication No. 2003/0143407) in view of Takeda et al. (U.S. Patent No. 5,858,604). The Applicants respectfully traverse the rejection and request reconsideration.

Regarding the rejection of independent claim 1, it is noted that claim 1 is allowable for at least similar reasons to those provided above with reference to claim 1.

Regarding the rejection of claims 4-8, it is noted that these claims depend from claim 1 and are, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of claims 15, 18-19, and 25, it is noted that these claims depend from claim 15 and are, therefore, allowable for at least the reasons set forth above.

Claims 16, 17 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. (U.S. Patent Application Publication No. 2003/0143407) in view of Takeda et al. (U.S. Patent No. 5,858,604) and further in view of Kouchiyama et al. (Storage Technology Labatories). The Applicants respectfully traverse the rejection and request reconsideration.

Regarding the rejection of claims 16, 17, and 24, it is noted that these claims depend from claim 15 and are, therefore, allowable for at least the reasons set forth above.

Based on the foregoing, this rejection is respectfully requested to be withdrawn.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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Date: 5/8/09

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